WM-FX271/FX275

SERVICE MANUAL

Ver 1.0 1999. 02

US Model
WM-FX271/FX275
Canadian Model
AEP Model
E Model
Chinese Model
WM-FX271

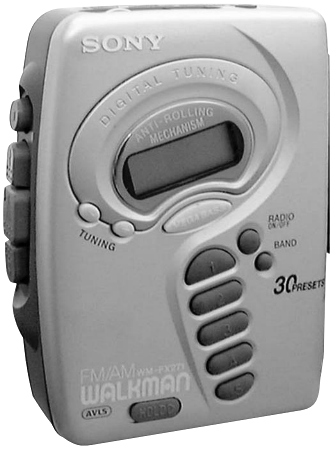


Photo: WM-FX271

Model Name Using Similar Mechanism	WM-FX171
Tape Transport Mechanism Type	MF-WMFX171-114

SPECIFICATIONS

Frequency range
FM: 65 – 74/87.5 – 108 MHz (East European)
87.5 – 108 MHz (Except East European)
AM: 530 – 1,710 kHz (US, Canadian)
531 – 1,602 kHz (Except US, Canadian)
Power requirements
3 V DC batteries R6 (AA) × 2/External DC 3 V power sources
Dimensions
91.4 × 115.5 × 35.9 mm (3 5/8 × 4 5/8 × 1 7/16 inches) (w/h/d) incl. projecting parts and controls
Mass
Approx. 150 g (5.3 oz.)
Approx. 230 g (8.2 oz.) incl.batteries and a tape
Supplied accessories
Stereo headphones or Stereo earphones (1)/Carrying case (1)

Design and specifications are subject to change without notice.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

RADIO CASSETTE PLAYER

MICROFILM

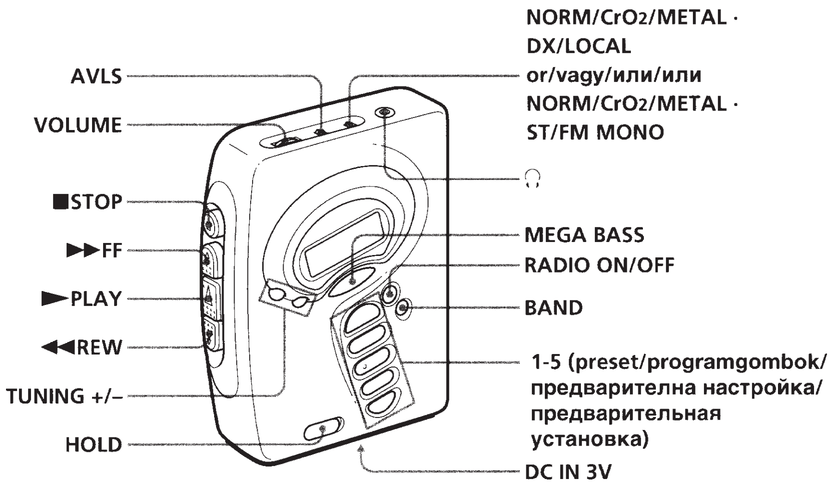
SONY®

TABLE OF CONTENTS

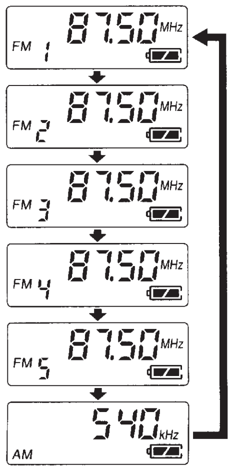
SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of parts and controls
A készülék részeinek és szabályozóinak elhelyezkedése
Месторазположение на уредите за управление
Расположение органов управления

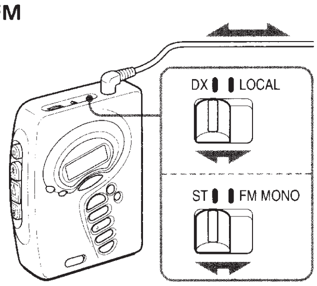


D

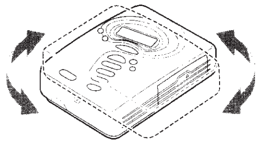


E

FM

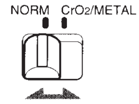


AM

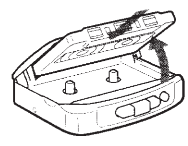


Playing a tape

1 Set NORM•CrO2/METAL to match the tape type.



2 Insert a cassette and press ▶ PLAY.



To	Press
Stop playback	■ STOP
Fast-forward or rewind the tape*	▶▶ FF or ◀◀ REW

***Note on fast-forward and rewind**

- If you leave the unit after the tape has been wound or rewound, the batteries will be consumed rapidly. Be sure to press ■ STOP.

Note

Do not open the cassette holder while the tape is running.

Listening to the radio

1 Press RADIO ON/OFF.

2 Make sure the HOLD function is turned off.
If it is on, slide the HOLD switch to turn it off.

3 Press BAND to select the band (FM1, FM2 FM3, FM4, FM5 or AM). Each time you press the button, the display changes as shown in fig. **D**.

4 Press TUNING +/– to tune to the station you want.

To turn off the radio

Press RADIO ON/OFF.

To tune the station quickly

Hold down TUNING +/– for a few seconds in step 4. The Walkman starts scanning for stations and stops for a second each time a station is tuned. When the desired frequency digits appear, press TUNING +/– to stop scanning.

To improve broadcast reception E

For FM, extend the headphones/earphones cord or adjust DX/LOCAL or ST/FM MONO.

For AM, reorient the unit itself.

Note

If the broadcast becomes noisy when a cassette with a metallic shell or label is inserted, remove the cassette.

SECTION 2
DISASSEMBLY

• The equipment can be removed using the following procedure.

Set → Cabinet (front) sub assy → Main board → Holder (sub) assy, cassette → Belt and Motor

Main board → Mechanism deck

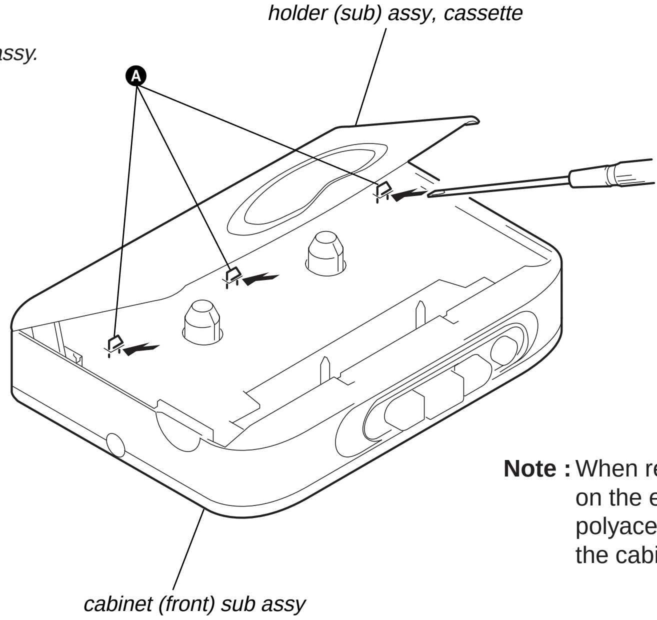
Note : Follow the disassembly procedure in the numerical order given.

2-1. CABINET (FRONT) SUB ASSY

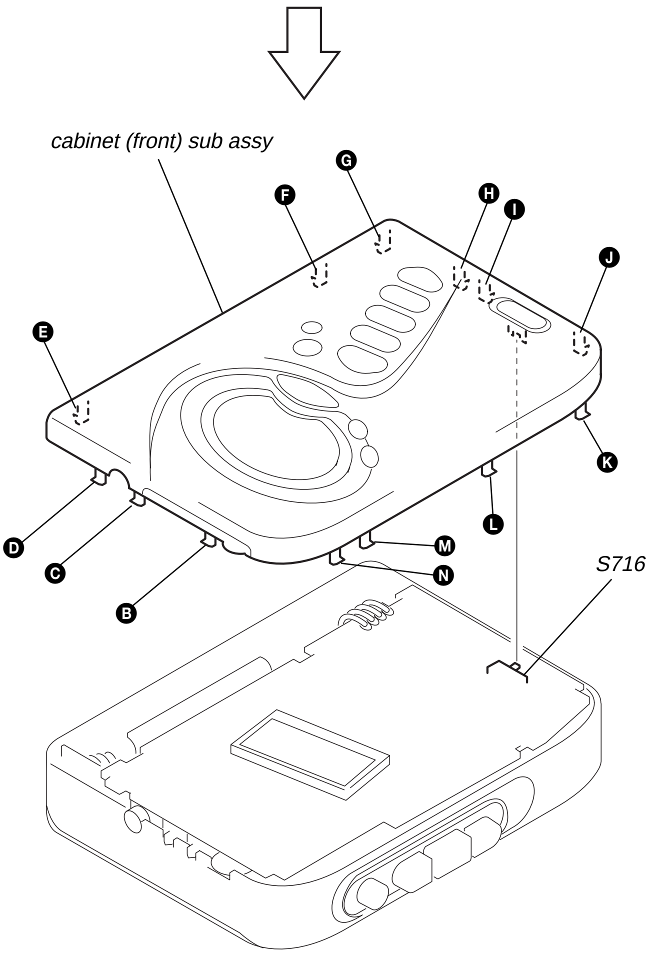
Note : When installing, fit the knobs and switches.

❶ *Insert the precision screwdriver (1.4 mm flat-blade) into the slit at claw Ⓐ and release the claw.*

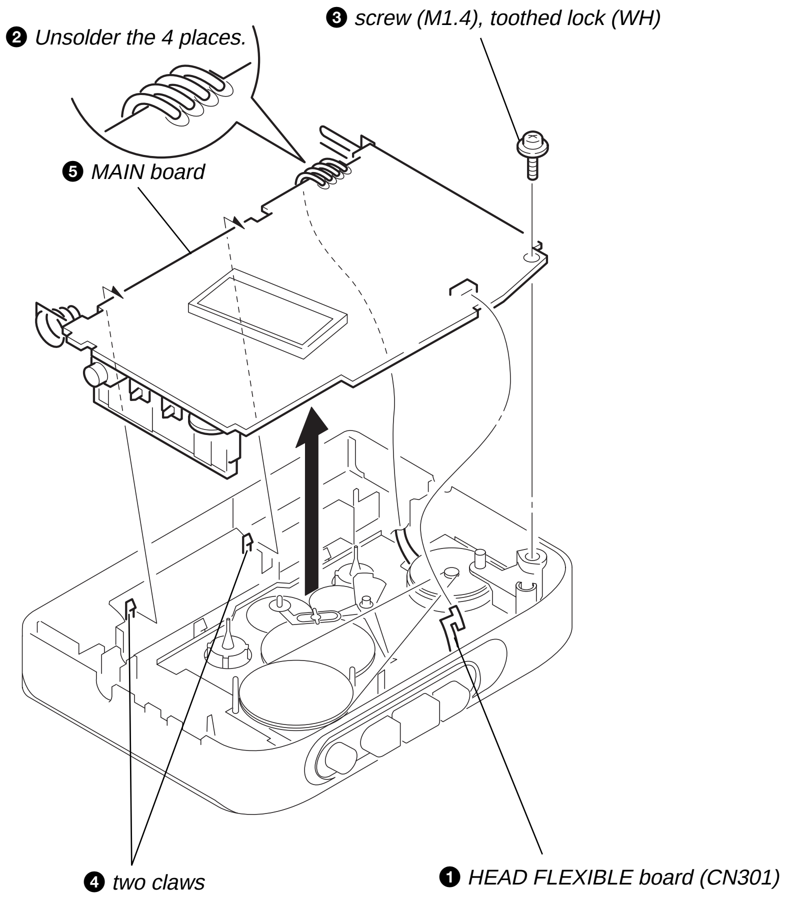
❷ *Remove the cabinet (front) sub assy. (Release all claws Ⓑ to Ⓝ in alphabetical order.)*



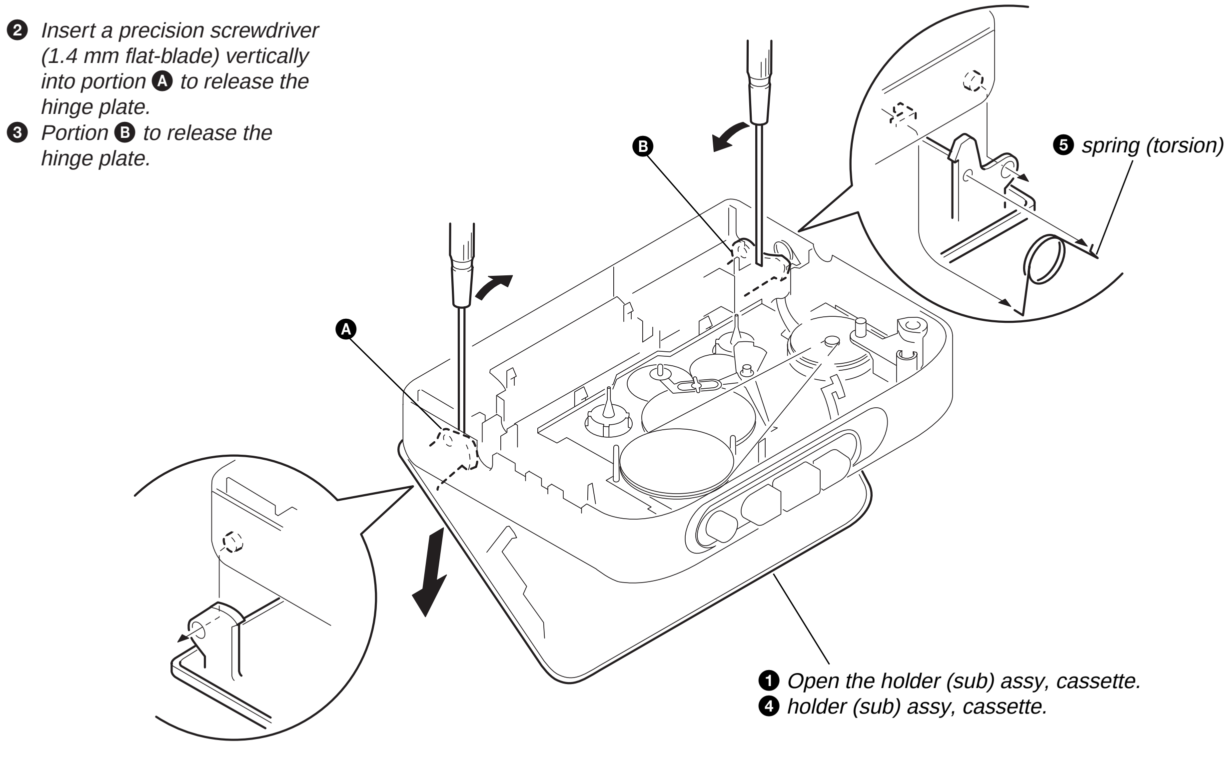
Note : When removing the cabinet, put cloth on the end of a screwdriver or use a polyacetal driver to avoid damage to the cabinet.



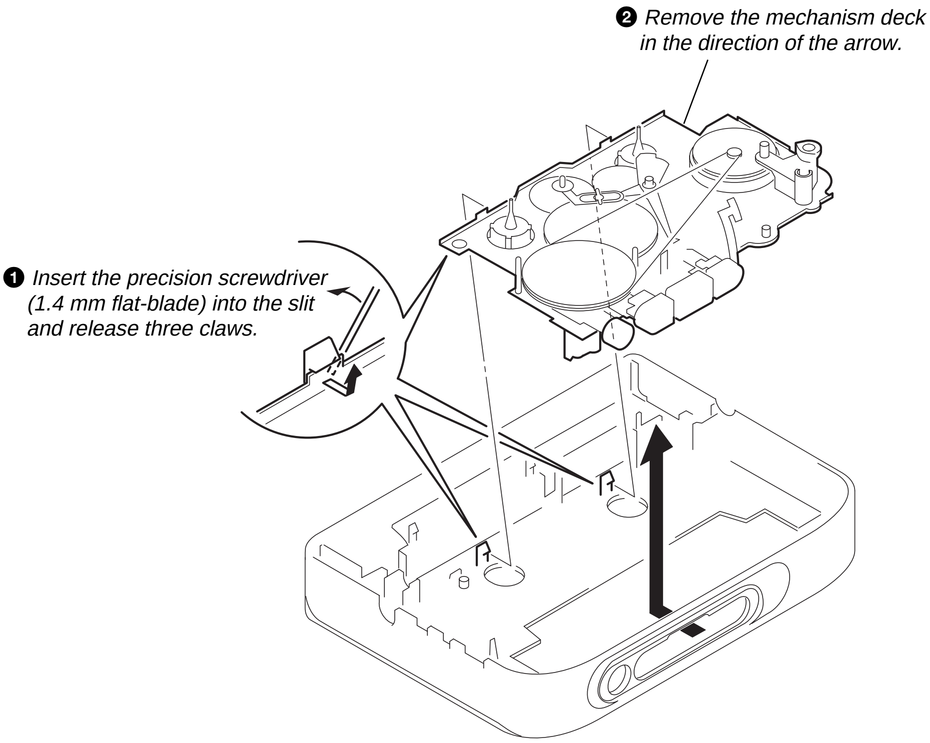
2-2. MAIN BOARD



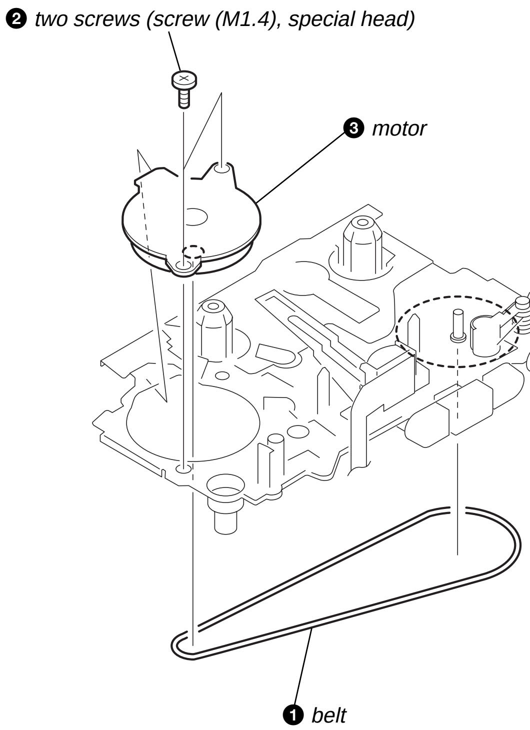
2-3. HOLDER (SUB) ASSY, CASSETTE



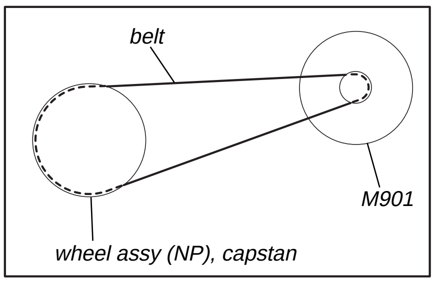
2-4. MECHANISM DECK



2-5. BELT AND MOTOR



• How to apply the belt



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   playback head   pinch lever assy
   capstan wheel assy   rubber belt
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (2.5 V) unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	20 – 42 g • cm (0.28 – 0.58 oz • inch)
FWD Back Tension	CQ-102C	less than 2 g • cm (less than 0.03 oz • inch)
FF, REW	CQ-201B	more than 60 g • cm (more than 0.83 oz • inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

PRECAUTION

• Supplied voltage : 2.5V
• Switch and control position
VOLUME control : maximum
AVLS switch : NORM

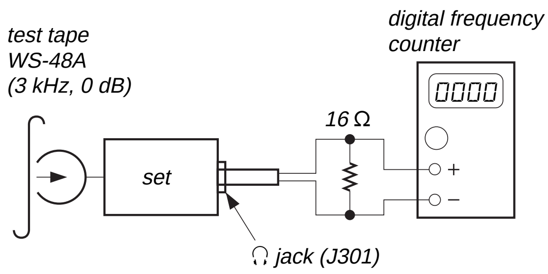
• Test Tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	tape speed adjustment

TAPE SECTION **0 dB = 0.775 V**

Tape Speed Adjustment

Procedure:

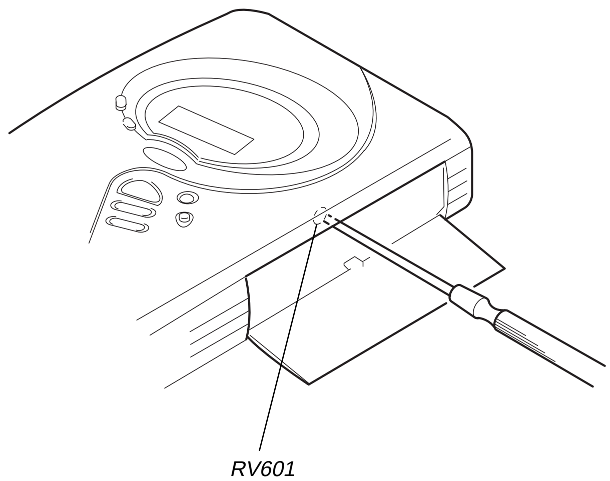


1. Playback WS-48A (tape center part) in the FWD state and adjust RV601 so that the frequency counter reading becomes 3,000 Hz.

Specification Value:

Digital frequency counter
2,985 to 3,015 Hz

Adjustment Location:

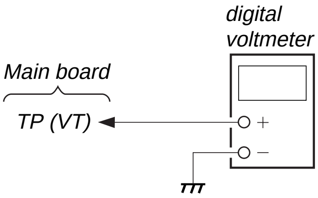


TUNER SECTION 0 dB = 1 µV

- **FM Section**

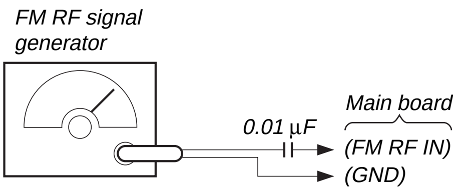
Setting:
RADIO ON/OFF switch : ON
BAND switch : FM

FM Tuning Voltage Adjustment

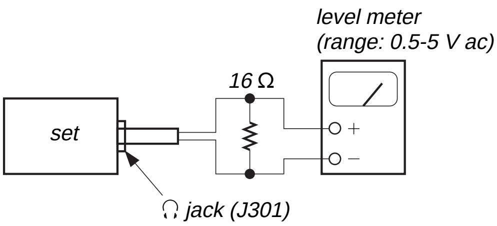


FM TUNING VOLTAGE ADJUSTMENT
Adjust for a 8.5 ± 0.3 (14.5 ± 0.5) Vdc reading on digital voltmeter.
L3
108 MHz

FM Tracking Adjustment



Modulation: 1 kHz, 75 kHz dev. (100%)
Output level: as low as possible



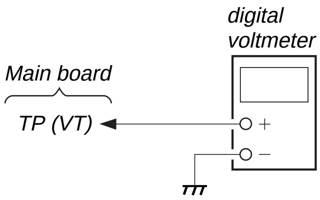
FM TRACKING ADJUSTMENT
Adjust for a maximum reading on level meter.
L2
87.5 (65.0) MHz

( ): East European model

- **AM Section**

Setting:
RADIO ON/OFF switch : ON
BAND switch : AM

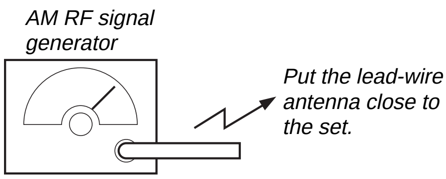
AM Tuning Voltage Adjustment



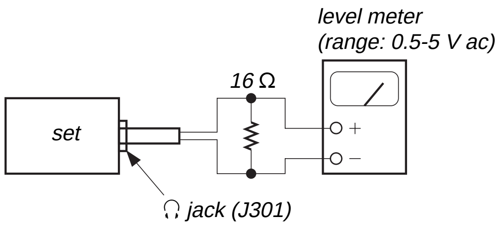
AM TUNING VOLTAGE ADJUSTMENT
Adjust for a 1.1 ± 0.1 Vdc reading on digital voltmeter.
L4
530 (531) kHz

( ): Except US, Canadian model

AM IF Adjustment, AM Tracking Adjustment



Modulation: 400Hz, 30%
Output level: as low as possible



- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

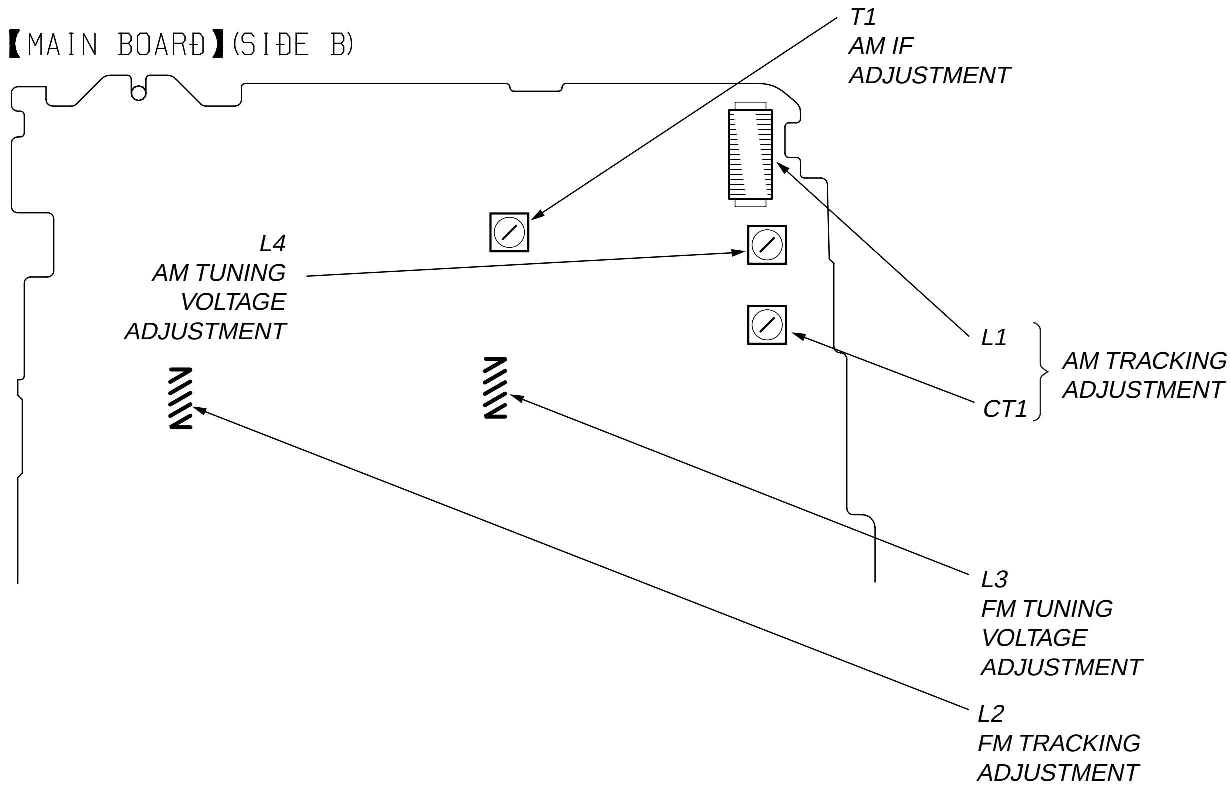
AM IF ADJUSTMENT
Adjust for a maximum reading on level meter.
T1
1,000 (999) kHz

( ): Except US, Canadian model

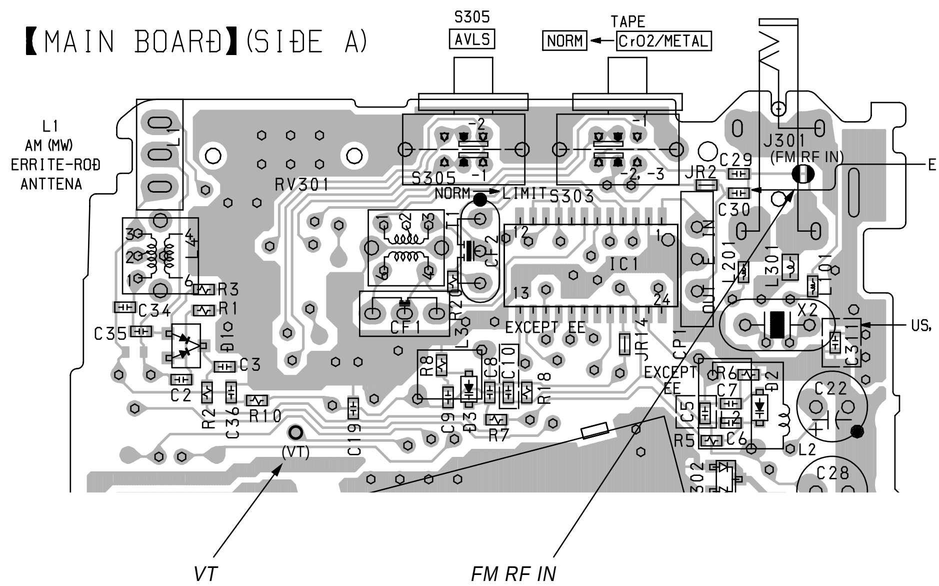
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	CT1
620 (621) kHz	1,400 (1,395) kHz

( ): Except US, Canadian model

Adjustment Location: main board



Measurement Points: main board



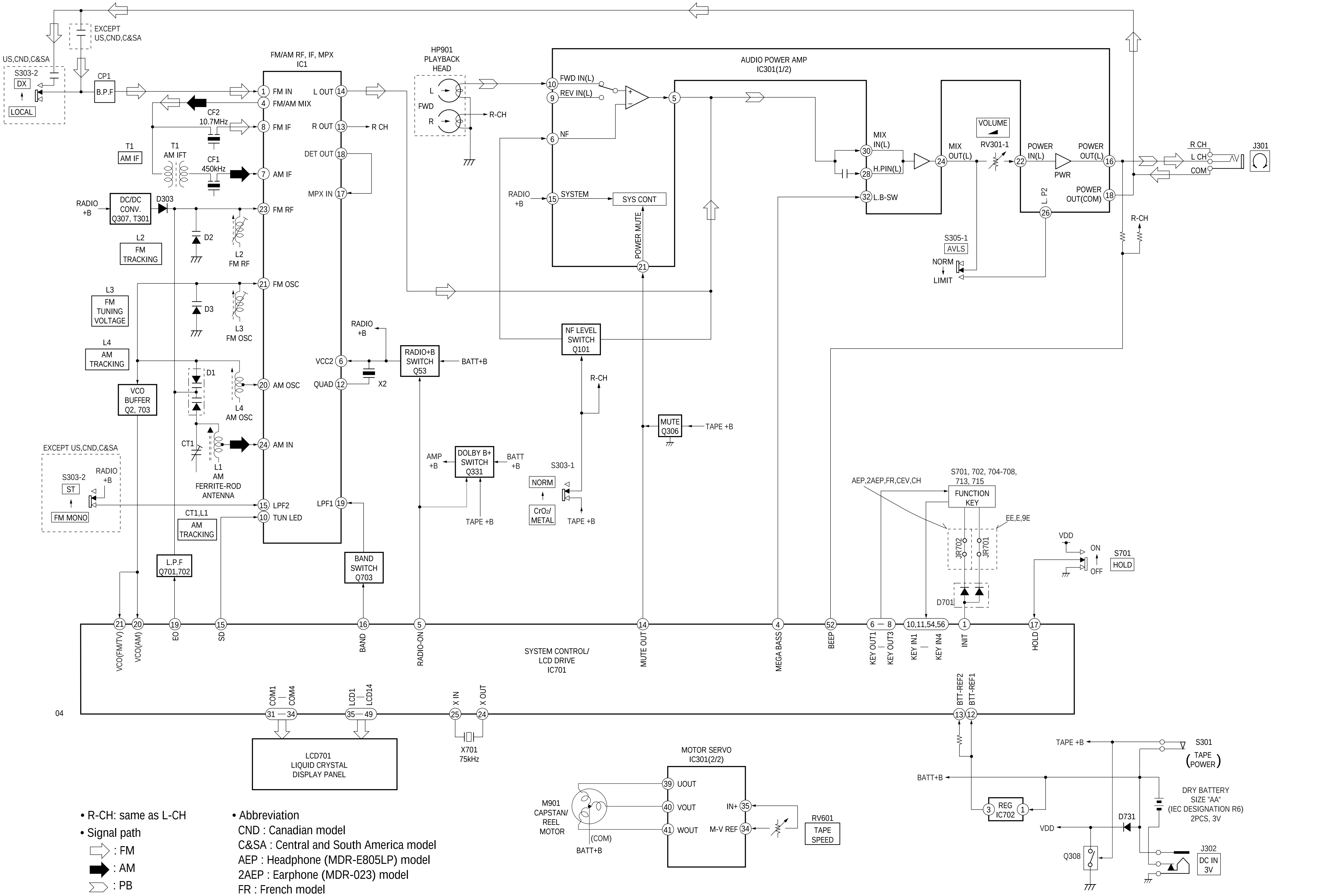
SECTION 5
DIAGRAMS

5-1. IC PIN DESCRIPTION

• IC701 μPD17072GB-559-1A7 (SYSTEM CONTROL/LCD DRIVE)

Pin No.	Pin Name	I/O	Pin Description
1	INIT	O	Initialize output
2, 3	NC	—	Not used.
4	MEGA BASS	O	MEGA BASS ON/OFF output (L: ON, H: OFF)
5	RADIO-ON	O	Radio circuit power control output
6 – 8	KEY OUT1 – 3	O	Key matrix output 1 – 3
9	NC	—	Not used.
10, 11	KEY IN1, 3	I	Key input 1, 3
12, 13	BTT-REF1, 2	I	Reference voltage input for battery voltage check.
14	MUTE OUT	O	Mute output (Mute ON: L, Mute OFF: input)
15	SD	I	SD (with local) signal input
16	BAND	O	Radio band select output (AM: L, FM: input)
17	HOLD	I	Key hold input (Key input effect: L, Key input ineffect: H)
18	GND	—	Ground
19	EO	O	PLL error out output
20	VCO (AM)	I	VCO (AM) input
21	VCO (FM/TV)	I	VCO (FM) input
22	VDD2	—	Voltage regulator for PLL.
23	VDD1	—	Power supply pin
24	XO	—	Crystal oscillator output (75 kHz)
25	XI	—	Crystal oscillator input (75 kHz)
26	VDD5	—	Voltage regulator for oscillation circuit.
27	VDD3	—	Power supply for LCD driver.
28, 29	CAP1, 2	—	Stabilized capacitor connection of crystal oscillation power supply.
30	VDD4	—	Power supply for LCD driver.
31 – 34	COM0 – 3	O	LCD driver common output
35 – 49	LCD0 – 14	O	LCD driver output
50	CE	I	L: Clock stop, H: Normally operation
51	TAPE ON	I	At TAPE ON: H
52	BEEP	O	BEEP output
53	NC	—	Not used.
54	KEY IN2	I	Key input 2
55	NC	—	Not used.
56	KEY IN4	I	Key input 4

5-2. BLOCK DIAGRAM



• R-CH: same as L-CH

• Signal path

: FM

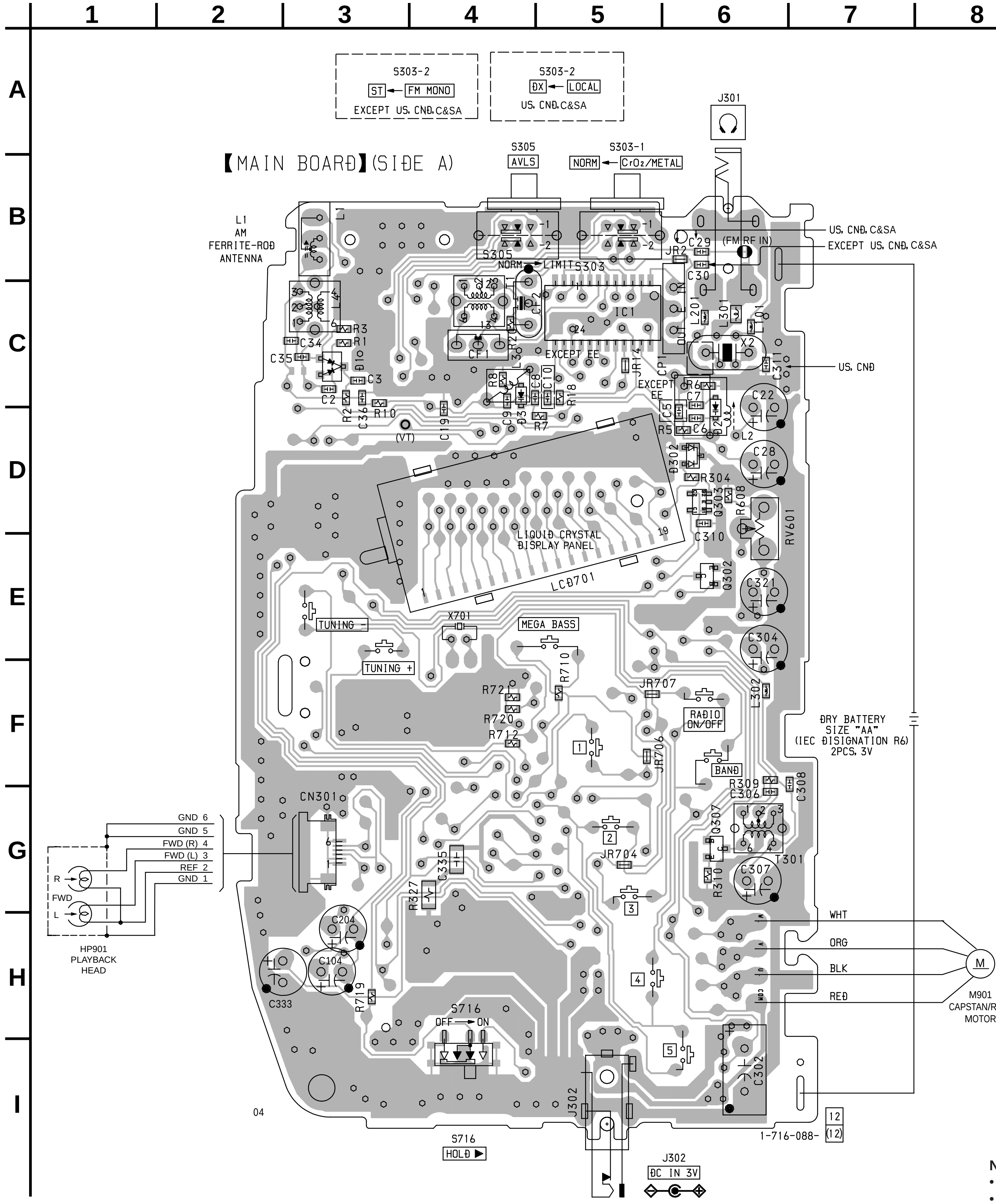
: AM

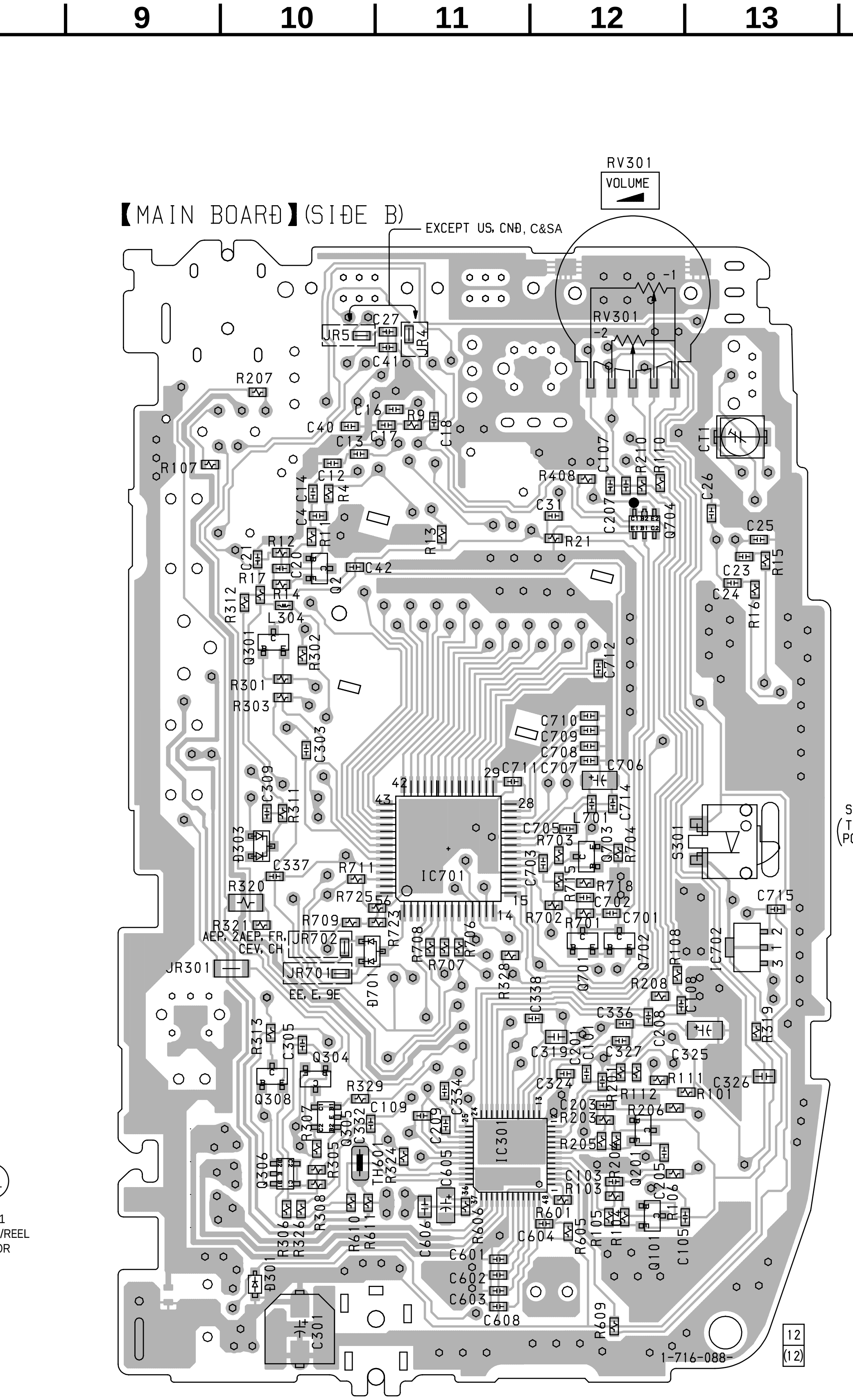
: PB

• Abbreviation

CND : Canadian model
C&SA : Central and South America model
AEP : Headphone (MDR-E805LP) model
2AEP : Earphone (MDR-023) model
FR : French model
CEV : Poland, Czech, Greece and Turkey model
CH : Chinese model
EE : East European model
E : Indication of country of origin
9E : No indication of country of origin

5-3. PRINTED WIRING BOARD



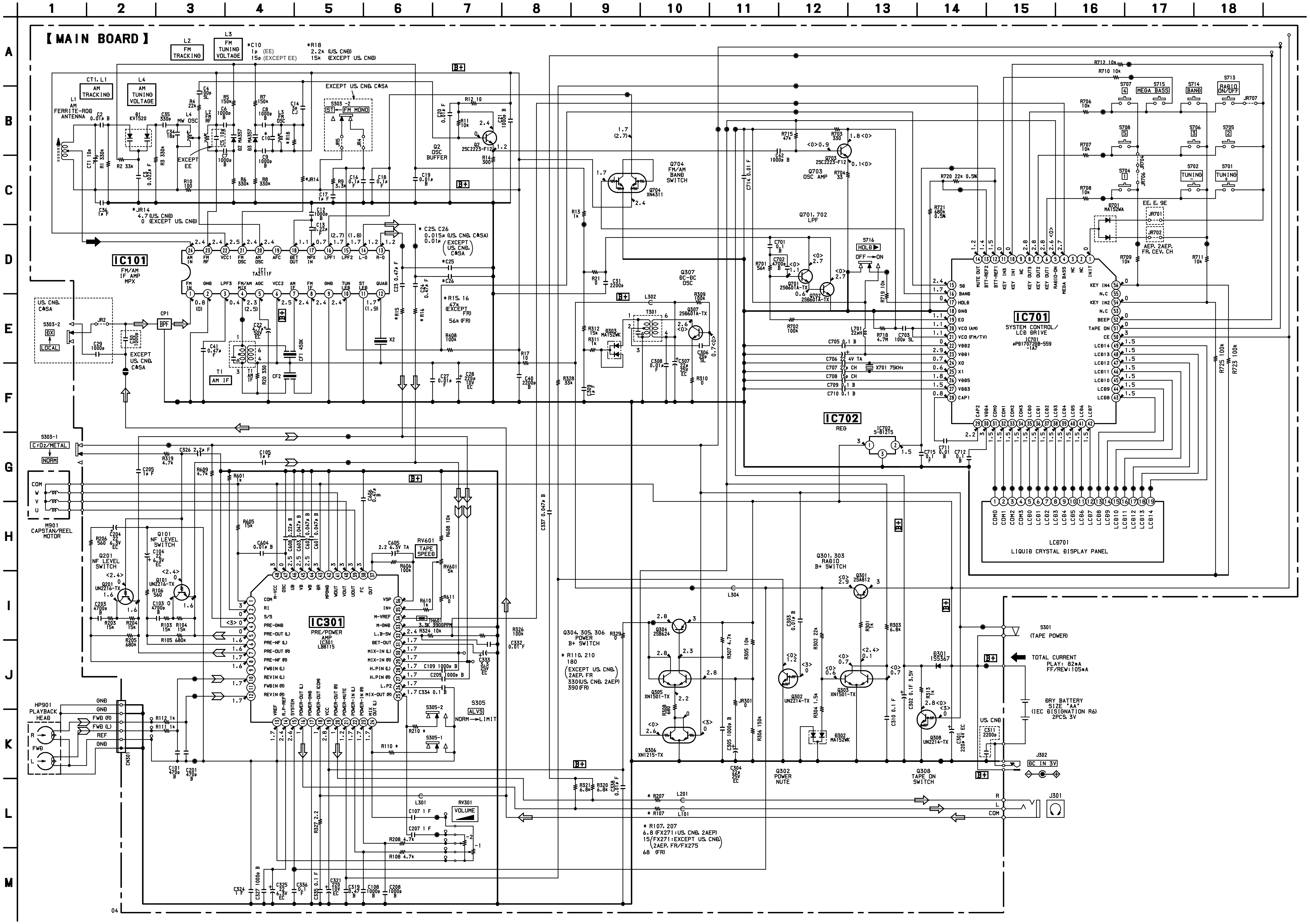


• Semiconductor Location

Ref. No.	Location
D1	C-3
D2	C-6
D3	C-8
D301	I-9
D302	D-6
D303	F-10
D701	F-10
IC1	C-5
IC301	H-11
IC701	F-11
IC702	F-13
Q2	D-10
Q101	H-12
Q201	H-12
Q301	D-10
Q302	E-6
Q303	D-6
Q304	G-10
Q305	G-10
Q306	H-10
Q307	G-6
Q308	G-10
Q701	F-12
Q702	F-12
Q703	F-12
Q704	D-12

Note:
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- ░░ : Pattern from the side which enables seeing.
- Abbreviation
  - CND : Canadian model
  - CEV : Poland, Czech, Greece and Turkey model
  - CH : Chinese model
  - 2AEP : Earphone (MDR-023) model
  - EE : East European model
  - FR : French model
  - C&SA : Central and South America model
  - 9E : No indication of country of origin
  - E : Indication of country of origin
  - AEP : Headphone (MDR-E805LP) model

5-4. SCHEMATIC DIAGRAM • Refer to page 17 for IC Block Diagrams.



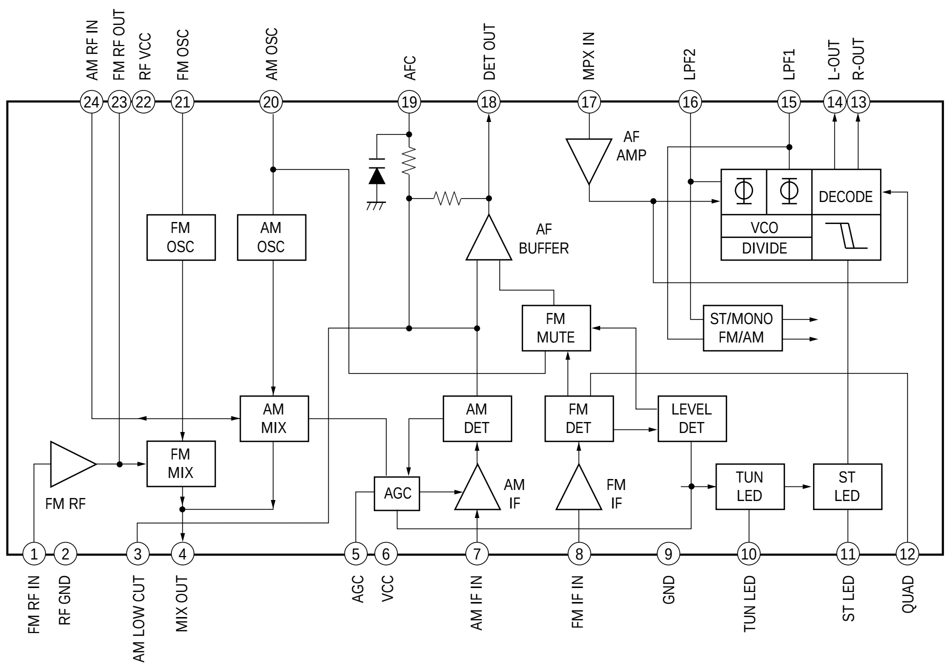
Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  - no mark : FM
  - ( ) : AM
  - < > : PB
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ➡ : AM
  - ⇒ : PB
- Abbreviation
  - CND : Canadian model
  - CEV : Poland, Czech, Greece and Turkey model

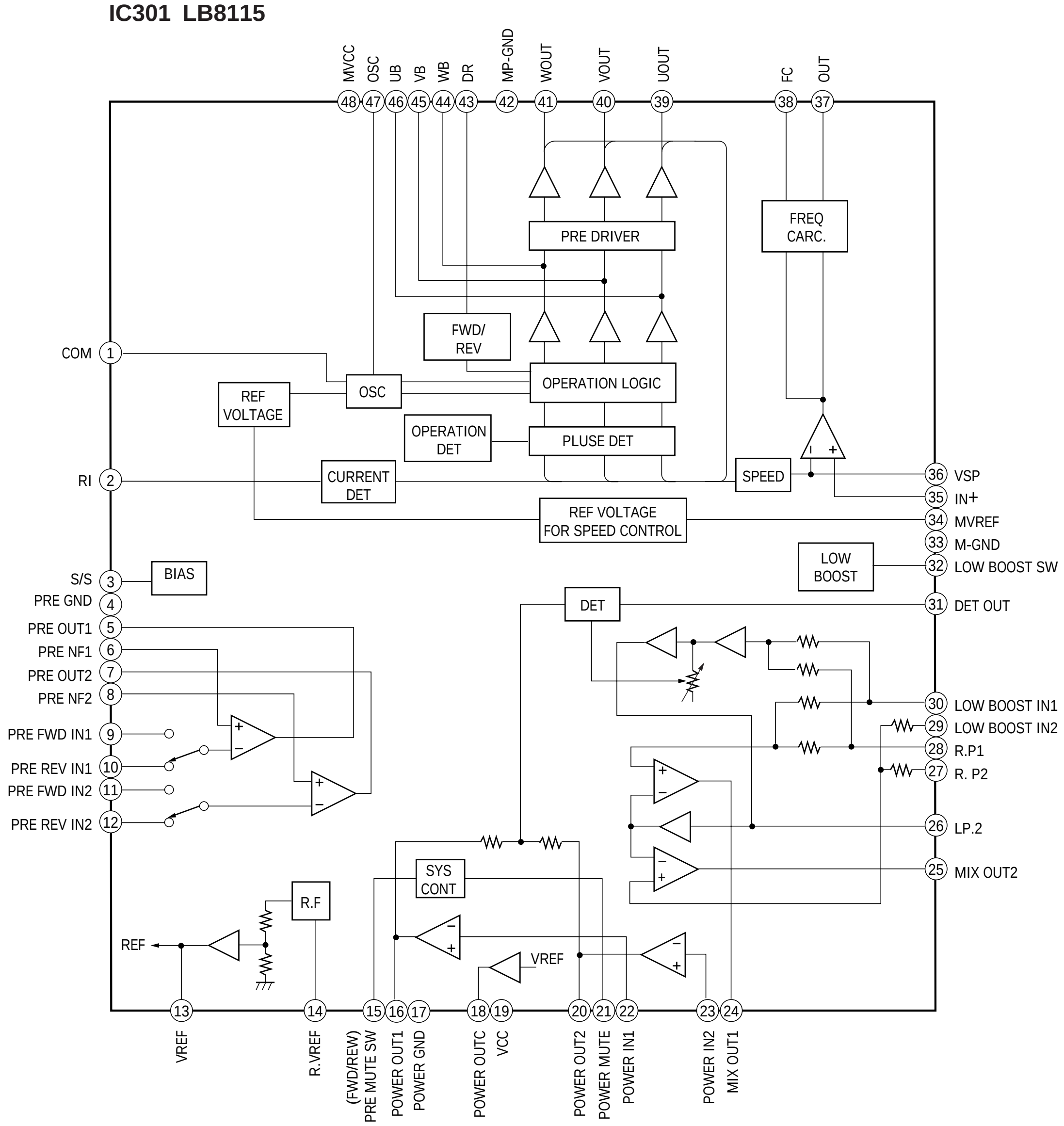
CH : Chinese model
2AEP : Earphone (MDR-023) model
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• IC Block Diagrams

IC1 TA2111F



IC301 LB8115



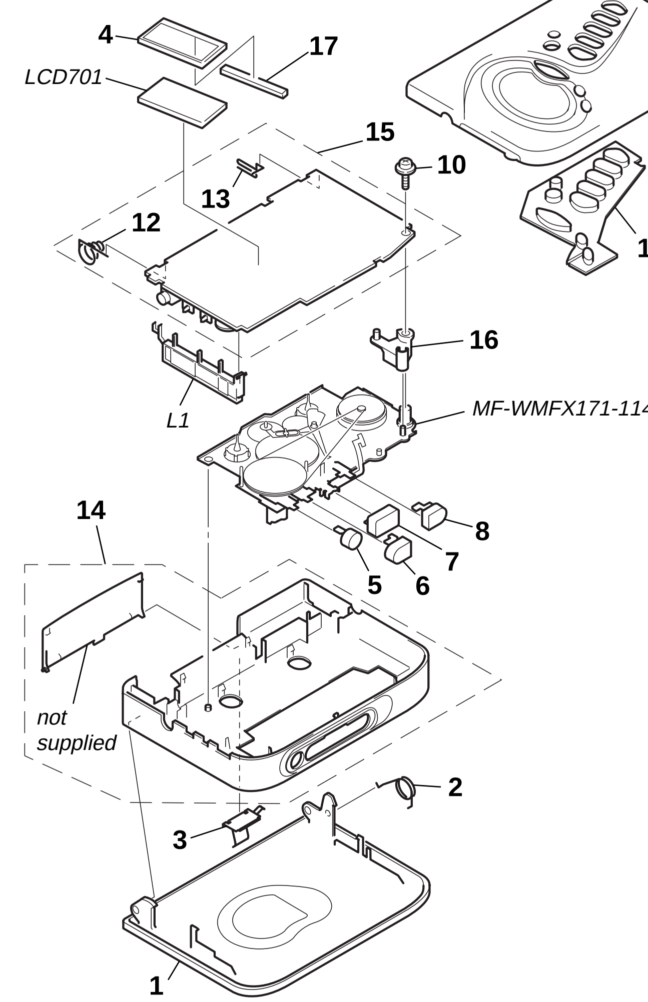
SECTION 6
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials are given in the last of this parts list.

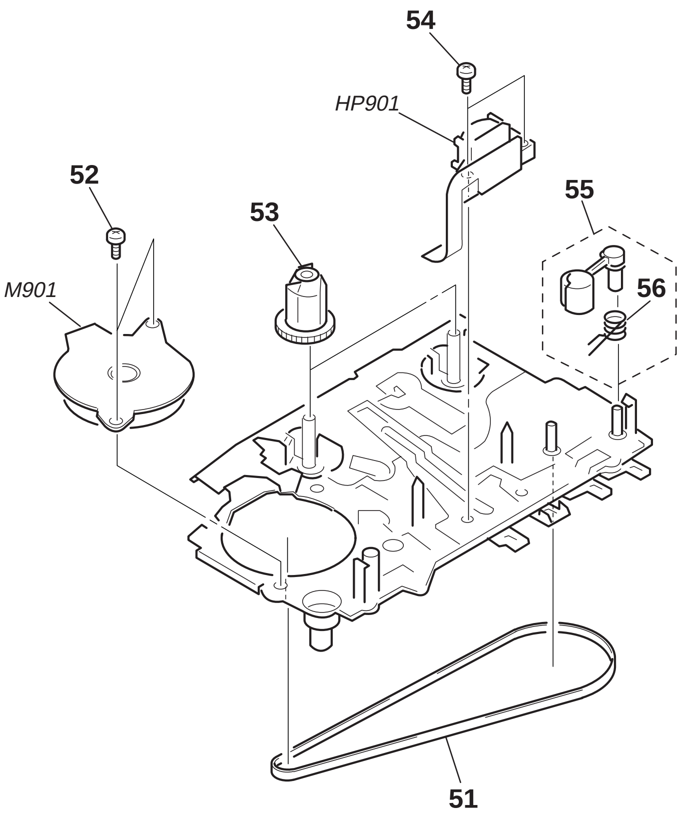
- Abbreviation
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  - AEP : Headphone (MDR-E805LP) model

6-1. CABINET SECTION



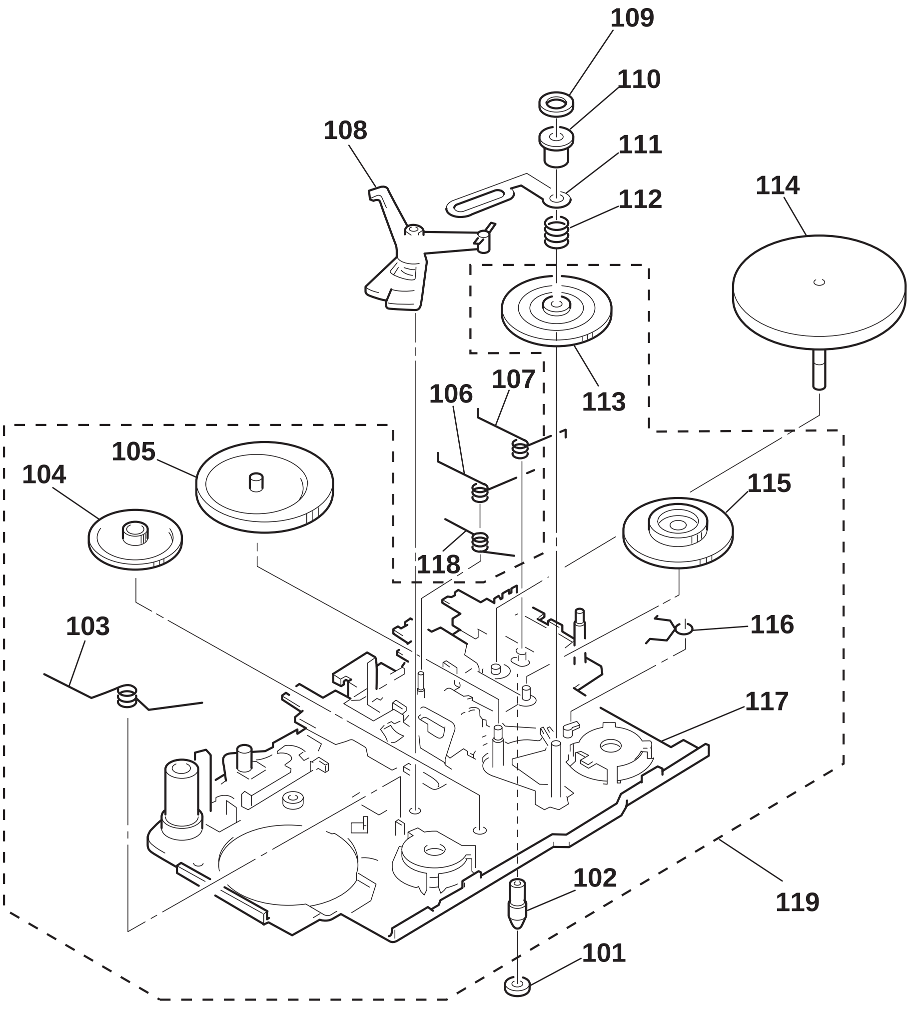
Ref. No.	Part No.	Description	Remark
1	X-3376-891-1	HOLDER (SUB) ASSY, CASSETTE (FX271:US,CND,EE,E,C&SA,CH)	
1	X-3376-893-1	HOLDER (SUB) ASSY, CASSETTE (AEP,2AEP,FR,9E,CEV)	
1	X-3377-162-1	HOLDER (SUB) ASSY, CASSETTE (FX275)	
2	3-007-012-01	SPRING (TORSION)	
3	3-007-011-01	SPRING (CASSETTE)	
* 4	3-030-057-01	HOLDER, LCD	
5	3-007-006-21	BUTTON (STOP)	
6	3-007-004-21	BUTTON (FF)	
7	3-030-054-01	BUTTON (PLAY)	
8	3-007-005-21	BUTTON (REW)	
9	X-3376-890-1	CABINET (FRONT) SUB ASSY (FX271)	
9	X-3377-161-1	CABINET (FRONT) SUB ASSY (FX275)	
10	3-015-285-01	SCREW (M1.4), TOOTHED LOCK (WH)	
11	3-030-058-01	BUTTON (PRESET)	
12	3-007-010-01	TERMINAL (-), BATTERY	
13	3-030-055-01	TERMINAL (+), BATTERY	
14	X-3376-892-1	CENTER SUB ASSY, CABINET (US,CND,C&SA)	
14	X-3376-894-1	CENTER SUB ASSY, CABINET (EXCEPT US,CND,C&SA)	
15	A-3021-177-A	MAIN BOARD, COMPLETE (FX271:US,CND)	
15	A-3021-178-A	MAIN BOARD, COMPLETE (AEP,CEV,CH)	
15	A-3021-179-A	MAIN BOARD, COMPLETE (2AEP)	
15	A-3021-180-A	MAIN BOARD, COMPLETE (EE)	
15	A-3021-181-A	MAIN BOARD, COMPLETE (E,9E)	
15	A-3021-183-A	MAIN BOARD, COMPLETE (FR)	
15	A-3021-184-A	MAIN BOARD, COMPLETE (C&SA)	
15	A-3021-215-A	MAIN BOARD, COMPLETE (FX275)	
16	3-007-762-01	STOPPER	
17	3-030-056-01	RUBBER, CONDUCTIVE	
L1	1-501-961-11	ANTENNA, FERRITE-ROD (AM)	
LCD701	1-803-305-11	DISPLAY PANEL, LIQUID CRYSTAL	

6-2. TAPE MECHANISM SECTION-1 (MF-WMFX171-114)



Ref. No.	Part No.	Description	Remark
51	3-013-560-11	BELT	
52	3-703-816-31	SCREW (M1.4), SPECIAL HEAD	
53	3-921-042-01	GEAR (REEL)	
54	3-703-816-73	SCREW (M1.4), SPECIAL HEAD	
55	X-3369-749-7	PINCH LEVER (N) ASSY	
56	3-920-996-01	SPRING (PINCH N)	
HP901	1-500-532-11	HEAD, MAGNETIC (PLAYBACK)	
M901	1-763-073-11	MOTOR (CAPSTAN/REEL) (including PULLEY)	

6-3. TAPE MECHANISM SECTION-2
(MF-WMFX171-114)



Ref. No.	Part No.	Description	Remark
101	3-921-797-01	WASHER	
102	3-921-003-01	BEARING	
103	3-938-628-01	SPRING (PLAY-CP)	
104	3-920-999-01	GEAR (A)	
105	X-3375-837-1	CLUTCH ASSY	
106	3-013-142-01	SPRING (FR-CP)	
107	3-015-436-01	SPRING (STOP)	
108	3-938-613-04	LEVER (OW), DETECTION	
109	3-728-091-01	WASHER, STOPPER	
110	3-923-530-01	SLEEVE (M)	

Ref. No.	Part No.	Description	Remark
111	3-921-335-03	WASHER, LEVER	
112	3-920-990-01	SPRING (UD), COMPRESSION	
113	3-921-050-01	GEAR (B)	
114	X-3372-619-2	WHEEL ASSY (NP), CAPSTAN	
115	3-921-043-01	GEAR (D)	
116	3-014-709-01	SPRING (FR LEVER OW)	
117	X-3375-054-3	CHASSIS ASSY (GL-02)	
118	3-016-989-01	SPRING (SW-CP)	
119	X-3376-931-1	CHASSIS (COMP) ASSY (GL-02-REC)	

SECTION 7
ELECTRICAL PARTS LIST

MAIN

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example:
  uA.. : μA.. uPA.. : μPA..
  uPB.. : μPB.. uPC.. : μPC.. uPD.. : μPD..
- CAPACITORS
  uF : μF
- COILS
  uH : μH

When indicating parts by reference number, please include the board.

- Abbreviation
  CND : Canadian model
  CEV : Poland, Czech, Greece and Turkey model
  CH : Chinese model
  2AEP : Earphone (MDR-023) model
  EE : East European model
  FR : French model
  C&SA : Central and South America model
  9E : No indication of country of origin
  E : Indication of country of origin
  AEP : Headphone (MDR-E805LP) model

Ref. No.	Part No.	Description			Remark
	A-3021-177-A	MAIN BOARD, COMPLETE (FX271:US,CND)			
	A-3021-178-A	MAIN BOARD, COMPLETE (AEP,CEV,CH)			
	A-3021-179-A	MAIN BOARD, COMPLETE (2AEP)			
	A-3021-180-A	MAIN BOARD, COMPLETE (EE)			
	A-3021-181-A	MAIN BOARD, COMPLETE (E,9E)			
	A-3021-183-A	MAIN BOARD, COMPLETE (FR)			
	A-3021-184-A	MAIN BOARD, COMPLETE (C&SA)			
	A-3021-215-A	MAIN BOARD, COMPLETE (FX275)			
		**********************			
	3-007-010-01	TERMINAL (-), BATTERY			
	3-030-055-01	TERMINAL (+), BATTERY			
		< CAPACITOR >			
C2	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C4	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C5	1-162-997-11	CERAMIC CHIP	10PF	0.5PF	50V
					(EXCEPT EE)
C6	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C8	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C9	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C10	1-162-905-11	CERAMIC CHIP	1PF	0.25PF	50V
					(EE)
C10	1-164-118-11	CERAMIC CHIP	15PF	5%	50V
					(EXCEPT EE)
C12	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C13	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C14	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C16	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C17	1-115-156-11	CERAMIC CHIP	1uF		10V
C18	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C19	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C20	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C21	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C22	1-126-963-11	ELECT	4.7uF	20%	50V
C23	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C24	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C25	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
					(EXCEPT US,CND,C&SA)
C25	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
					(US,CND,C&SA)
C26	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
					(EXCEPT US,CND,C&SA)
C26	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
					(US,CND,C&SA)
C27	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C28	1-124-434-00	ELECT	220uF	20%	4V
C29	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
					(US,CND,C&SA)
C30	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
					(EXCEPT US,CND,C&SA)
C31	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C34	1-164-437-11	CERAMIC CHIP	18PF	5%	50V
C35	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C36	1-115-156-11	CERAMIC CHIP	1uF		10V
C40	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C41	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C42	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C101	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C103	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C104	1-126-153-11	ELECT	22uF	20%	6.3V
C105	1-115-156-11	CERAMIC CHIP	1uF		10V
C107	1-115-156-11	CERAMIC CHIP	1uF		10V
C108	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C109	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C203	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C204	1-126-153-11	ELECT	22uF	20%	6.3V
C205	1-115-156-11	CERAMIC CHIP	1uF		10V
C207	1-115-156-11	CERAMIC CHIP	1uF		10V
C208	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C209	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-126-246-11	ELECT CHIP	220uF	20%	4V
C302	1-117-579-11	DOUBLE LAYERS	0.1F		3.5V
C303	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C304	1-128-551-11	ELECT	22uF	20%	25V
C305	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C306	1-164-113-11	CERAMIC CHIP	20PF	5%	50V
C307	1-128-551-11	ELECT	22uF	20%	25V
C308	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C309	1-115-156-11	CERAMIC CHIP	1uF		10V
C310	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C311	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
					(US,CND)
C319	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C321	1-124-434-00	ELECT	220uF	20%	4V
C324	1-115-156-11	CERAMIC CHIP	1uF		10V
C325	1-126-153-11	ELECT	22uF	20%	6.3V

Ref. No.	Part No.	Description			Remark
C326	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C327	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C332	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C333	1-126-162-11	ELECT	3.3uF	20%	50V
C334	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C335	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C336	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C337	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C338	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C601	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C602	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C603	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C604	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C605	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C606	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C608	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C701	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C702	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C703	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C705	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C706	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C707	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C708	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C709	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C710	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C711	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C712	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C714	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C715	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< FILTER >			
CF1	1-760-345-21	FILTER, CERAMIC			
CF2	1-781-137-11	FILTER ASSY, CERAMIC			
		< CONNECTOR >			
CN301	1-750-346-21	CONNECTOR, FFC/EPC (ZIF) 6P			
		< BPF >			
CP1	1-236-711-21	FILTER, BAND PASS (EXCEPT EE)			
CP1	1-239-813-21	FILTER, BAND PASS (EE)			
		< TRIMMER >			
CT1	1-141-422-11	CAP, ADJ	10PF		
		< DIODE >			
D1	8-719-049-75	DIODE KV1520TL00			
D2	8-719-053-30	DIODE MA2S357-(TX).SO			
D3	8-719-053-30	DIODE MA2S357-(TX).SO			
D301	8-719-049-09	DIODE 1SS367-T3SONY			
D302	8-719-801-78	DIODE 1SS184			
D303	8-719-801-78	DIODE 1SS184			
D701	8-719-400-20	DIODE MA152WA			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC1	8-759-493-20	IC A2111F-(EL)			
IC301	8-759-574-69	IC LB8115W-TLM			
IC701	8-759-574-71	IC uPD17072GB-559-1A7			
IC702	8-759-469-63	IC S-81215SGUP-DQK-T1			
		< JACK >			
J301	1-565-287-11	JACK (🎧)			
J302	1-750-061-11	JACK, DC (POLARITY UNIFIED TYPE)			(DC IN 3V)
		< JUMPER RESISTOR >			
JR2	1-216-864-11	METAL CHIP	0	5%	1/16W (US,CND,C&SA)
JR4	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT US,CND,C&SA)
JR5	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT US,CND,C&SA)
JR14	1-216-793-11	RES,CHIP	4.7	5%	1/16W (US,CND)
JR14	1-216-864-11	METAL CHIP	0	5%	1/16W (EXCEPT US,CND)
JR301	1-216-296-00	SHORT	0		
JR701	1-216-864-11	METAL CHIP	0	5%	1/16W (EE,E,9E)
JR702	1-216-864-11	METAL CHIP	0	5%	1/16W (AEP,2AEP,FR,CEV,CH)
JR704	1-216-864-11	METAL CHIP	0	5%	1/16W
JR706	1-216-864-11	METAL CHIP	0	5%	1/16W
JR707	1-216-864-11	METAL CHIP	0	5%	1/16W
		< COIL >			
L2	1-416-528-11	COIL, AIR-CORE (EXCEPT EE)			
L2	1-416-967-11	COIL, AIR-CORE (EE)			
L3	1-416-449-11	COIL, AIR-CORE (EXCEPT EE)			
L3	1-416-968-11	COIL, AIR-CORE (EE)			
L4	1-416-423-11	COIL(WITH CORE) (AM OSC)			
L101	1-414-760-21	INDUCTOR, FERRITE BEAD			
L201	1-414-760-21	INDUCTOR, FERRITE BEAD			
L301	1-414-235-22	INDUCTOR, FERRITE BEAD			
L302	1-414-760-21	INDUCTOR, FERRITE BEAD			
L304	1-414-760-21	INDUCTOR, FERRITE BEAD			
L701	1-412-995-21	INDUCTOR	22uH		
		< TRANSISTOR >			
Q2	8-729-102-27	TRANSISTOR 2SC2223-T1F12			
Q101	8-729-424-67	TRANSISTOR UN2216			
Q201	8-729-424-67	TRANSISTOR UN2216			
Q301	8-729-216-22	TRANSISTOR 2SA1162-G			
Q302	8-729-900-52	TRANSISTOR DTC114YK			
Q303	8-729-402-13	TRANSISTOR XN1501			
Q304	8-729-141-48	TRANSISTOR 2SB624-BV345			
Q305	8-729-402-13	TRANSISTOR XN1501			

Ref. No.	Part No.	Description				Remark
Q306	8-729-403-17	TRANSISTOR	XN1215			
Q307	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q308	8-729-900-52	TRANSISTOR	DTC114YK			
Q701	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q702	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q703	8-729-102-27	TRANSISTOR	2SC2223-T1F12			
Q704	8-729-011-47	TRANSISTOR	XN4311			
		< RESISTOR >				
R1	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R2	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R3	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R4	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R5	1-216-847-11	METAL CHIP	150K	5%	1/16W	
R6	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R7	1-216-847-11	METAL CHIP	150K	5%	1/16W	
R8	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R9	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R10	1-216-809-11	METAL CHIP	100	5%	1/16W	
R11	1-216-833-11	RES,CHIP	10K	5%	1/16W	
R12	1-216-797-11	METAL CHIP	10	5%	1/16W	
R13	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R14	1-216-815-11	METAL CHIP	330	5%	1/16W	
R15	1-216-841-11	METAL CHIP	47K	5%	1/16W	(EXCEPT FR)
R15	1-216-842-11	METAL CHIP	56K	5%	1/16W	(FR)
R16	1-216-841-11	METAL CHIP	47K	5%	1/16W	(EXCEPT FR)
R16	1-216-842-11	METAL CHIP	56K	5%	1/16W	(FR)
R17	1-216-797-11	METAL CHIP	10	5%	1/16W	
R18	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	(US,CND)
R18	1-216-835-11	METAL CHIP	15K	5%	1/16W	(EXCEPT US,CND)
R20	1-216-815-11	METAL CHIP	330	5%	1/16W	
R21	1-216-864-11	METAL CHIP	0	5%	1/16W	
R103	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R104	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R105	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R106	1-216-818-11	METAL CHIP	560	5%	1/16W	
R107	1-216-795-11	RES,CHIP	6.8	5%	1/16W	(FX271:US,CND,2AEP)
R107	1-216-799-11	METAL CHIP	15	5%	1/16W	(FX271:EXCEPT US,CND,2AEP,FR/FX275)
R107	1-216-807-11	METAL CHIP	68	5%	1/16W	(FR)
R108	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R110	1-216-812-11	METAL CHIP	180	5%	1/16W	(EXCEPT US,CND,2AEP,FR)
R110	1-216-815-11	METAL CHIP	330	5%	1/16W	(US,CND,2AEP)
R110	1-216-816-11	METAL CHIP	390	5%	1/16W	(FR)

Ref. No.	Part No.	Description				Remark
R111	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R112	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R203	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R204	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R205	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R206	1-216-818-11	METAL CHIP	560	5%	1/16W	
R207	1-216-795-11	RES,CHIP	6.8	5%	1/16W	(FX271:US,CND,2AEP)
R207	1-216-799-11	METAL CHIP	15	5%	1/16W	(FX271:EXCEPT US,CND,2AEP,FR/FX275)
R207	1-216-807-11	METAL CHIP	68	5%	1/16W	(FR)
R208	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R210	1-216-812-11	METAL CHIP	180	5%	1/16W	(EXCEPT US,CND,2AEP,FR)
R210	1-216-815-11	METAL CHIP	330	5%	1/16W	(US,CND,2AEP)
R210	1-216-816-11	METAL CHIP	390	5%	1/16W	(FR)
R301	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R302	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R303	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R304	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R305	1-216-833-11	RES,CHIP	10K	5%	1/16W	
R306	1-216-847-11	METAL CHIP	150K	5%	1/16W	
R307	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R308	1-216-819-11	METAL CHIP	680	5%	1/16W	
R309	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R310	1-216-864-11	METAL CHIP	0	5%	1/16W	
R311	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R312	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R313	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R319	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R320	1-216-218-00	RES,CHIP	6.8K	5%	1/8W	
R321	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R324	1-216-833-11	RES,CHIP	10K	5%	1/16W	
R326	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R327	1-216-134-00	METAL CHIP	2.2	5%	1/8W	
R328	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R329	1-216-864-11	METAL CHIP	0	5%	1/16W	
R408	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R601	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R605	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R606	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R608	1-216-833-11	RES,CHIP	10K	5%	1/16W	
R609	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R610	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R611	1-216-864-11	METAL CHIP	0	5%	1/16W	
R701	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R702	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R703	1-216-815-11	METAL CHIP	330	5%	1/16W	
R704	1-216-803-11	METAL CHIP	33	5%	1/16W	
R706	1-216-833-11	RES,CHIP	10K	5%	1/16W	
R707	1-216-833-11	RES,CHIP	10K	5%	1/16W	

MAIN

Ref. No.	Part No.	Description			Remark
R708	1-216-833-11	RES,CHIP	10K	5%	1/16W
R709	1-216-833-11	RES,CHIP	10K	5%	1/16W
R710	1-216-833-11	RES,CHIP	10K	5%	1/16W
R711	1-216-833-11	RES,CHIP	10K	5%	1/16W
R712	1-216-833-11	RES,CHIP	10K	5%	1/16W
R715	1-216-841-11	METAL CHIP	47K	5%	1/16W
R718	1-220-397-11	RES,CHIP	4.7M	5%	1/16W
R719	1-216-833-11	RES,CHIP	10K	5%	1/16W
R720	1-218-879-11	RES,CHIP	22K	0.50%	1/16W
R721	1-218-915-11	RES,CHIP	680K	0.50%	1/16W
R723	1-216-845-11	METAL CHIP	100K	5%	1/16W
R725	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< VARIABLE RESISTOR >			
RV301	1-225-748-21	RES, VAR, CARBON 10K/10K (VOLUME)			
RV601	1-241-784-11	RES, ADJ, CARBON 5K			
		< SWITCH >			
S301	1-762-742-31	SWITCH, DETECTION (SMALL TYPE) (TAPE POWER)			
S303	1-692-298-11	SWITCH, SLIDE (NORM•CrO_2/METAL, DX•LOCAL) (US,CND,C&SA)			
S303	1-692-298-11	SWITCH, SLIDE (NORM•CrO_2/METAL, ST•FM MONO) (EXCEPT US,CND,C&SA)			
S305	1-692-298-11	SWITCH, SLIDE (AVLS)			
S716	1-572-922-11	SWITCH, SLIDE (HOLD)			
		< TRANSFORMER >			
T1	1-406-694-11	COIL, AM IFT			
T301	1-426-917-11	TRANSFORMER, DC-DC CONVERTER			
		< THERMISTOR (POSITIVE) >			
TH601	1-810-794-11	THERMISTOR, POSITIVE			
		< VIBRATOR >			
X2	1-781-137-11	FILTER ASSY, CERAMIC			
X701	1-577-262-11	VIBRATOR, CRYSTAL (75kHz)			

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
HP901	1-500-532-11	HEAD, MAGNETIC (PLAYBACK)	
L1	1-501-961-11	ANTENNA, FERRITE-ROD (AM)	
LCD701	1-803-305-11	DISPLAY PANEL, LIQUID CRYSTAL	
M901	1-763-073-11	MOTOR (CAPSTAN/REEL) (including PULLEY)	

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remark
	1-505-521-11	HEADPHONE (MDR-023) (FX271:US,CND,2AEP,FR)	
	3-032-906-01	CASE, CARRYING	
	3-864-879-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH, ITALIAN) (US,CND,AEP,2AEP,FR)	
	3-864-879-21	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (AEP,2AEP,C&SA)	
	3-864-879-31	MANUAL, INSTRUCTION (GERMAN,DUTCH, SWEDISH,FINNISH) (AEP,2AEP)	
	3-864-879-41	MANUAL, INSTRUCTION (ENGLISH,HUNGARIAN, BULGARIAN,RUSSIAN) (EE,CEV)	
	3-864-879-51	MANUAL, INSTRUCTION (POLISH,CZECH, GREEK,TURKISH) (CEV)	
	3-864-879-61	MANUAL, INSTRUCTION (ENGLISH, TRADITIONAL CHINESE, KOREAN,ARABIC) (E)	
	3-864-879-71	MANUAL, INSTRUCTION (ENGLISH, TRADITIONAL CHINESE, KOREAN,ARABIC) (9E)	
	3-864-879-91	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE, ENGLISH) (CH)	
	8-953-130-90	HEADPHONE MDR-E805LP/K SET (EXCEPT US,CND,2AEP,FR)	
	8-953-741-90	HEADPHONE, STEREO MDR-A0101LP (FX275)	

9-926-958-11

Sony Corporation

Personal A&V Products Company

99B0482-1

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WM-FX271/FX275

SONY®

SERVICE MANUAL

US Model
WM-FX271/FX275
Canadian Model
AEP Model
E Model
Chinese Model
WM-FX271

SUPPLEMENT-1

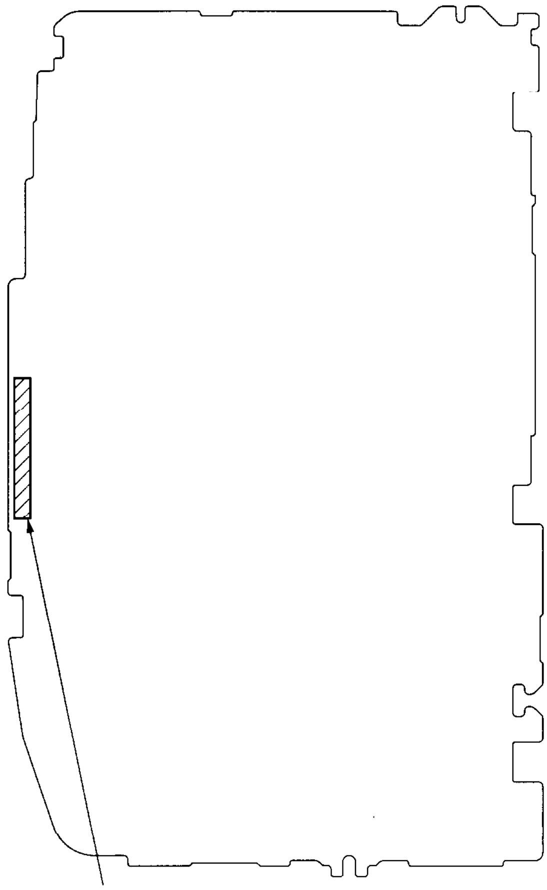
File this supplement with the service manual.

Subject : • Change of Main Board • Corrections

(ECN-WM801619)

Printed wiring board and schematic diagram of new type, and changed parts list are described in this Supplement-1.
Refer to original service manual (9-926-958-11) previously issued for the other information.
When performing service and inspection, check the suffix of the part number of the main board.

–MAIN BOARD (SIDE A)–



MAIN Board Part No.
Former : 1-671-695-12
New : 1-671-695-13

• **Corrections**

EXPLODED VIEWS

Page	INCORRECT				CORRECT		
	Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
18	L1	1-501-961-11	ANTENNA, FERRITE-ROD		1-501-960-11	ANTENNA, FERRITE-ROD	
20	105	X-3375-837-1	CLUTCH ASSY		X-3376-169-1	CLUTCH ASSY	
	116	3-014-709-01	SPRING (FR LEVER OW)		3-036-664-11	SPRING (FR LEVER OW)	

MISCELLANEOUS

Page	INCORRECT				CORRECT		
	Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
24	L1	1-501-961-11	ANTENNA, FERRITE-ROD		1-501-960-11	ANTENNA, FERRITE-ROD	

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$ W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.
- [B+] : B+ Line.
- ▬ : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  (   ) : AM
  <   > : PB
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⊳ : PB
- Abbreviation
  CND : Canadian model
  CEV : Poland, Czech, Greece and Turkey model
  CH : Chinese model
  2AEP : Earphone (MDR-023) model
  EE : East European model
  FR : French model
  C&SA : Central and South America model
  9E : No indication of country of origin
  E : Indication of country of origin
  AEP : Headphone (MDR-E805LP) model

1. PRINTED WIRING BOARD



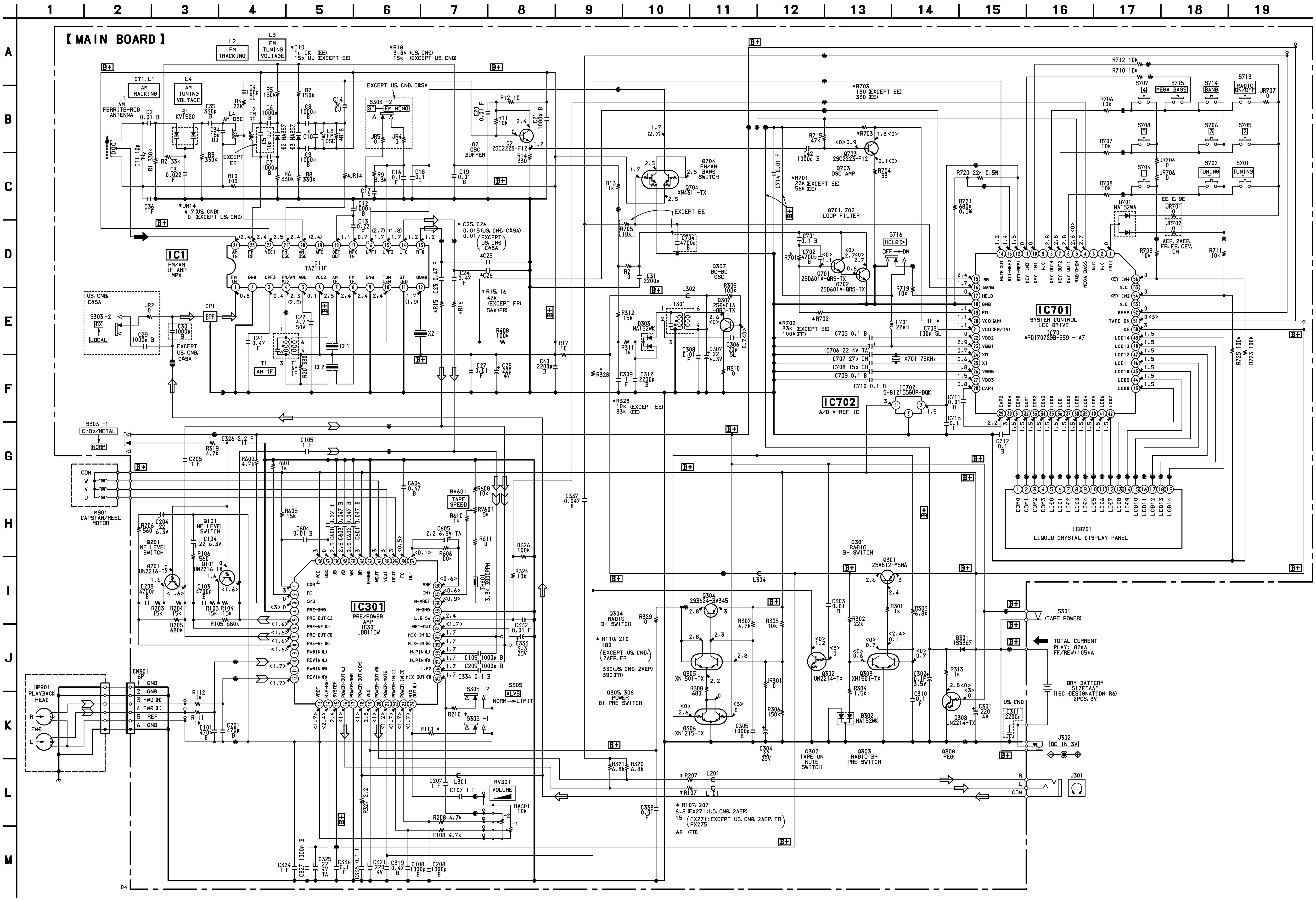
• **Semiconductor Location**

Ref. No.	Location
D1	C-3
D2	C-6
D3	C-8
D301	I-9
D302	D-6
D303	G-9
D701	F-10
IC1	C-5
IC301	H-11
IC701	F-11
IC702	F-13
Q2	D-10
Q101	H-12
Q201	H-12
Q301	D-10
Q302	E-6
Q303	D-6
Q304	G-10
Q305	G-10
Q306	H-10
Q307	G-6
Q308	G-10
Q701	F-12
Q702	F-12
Q703	F-12
Q704	D-12

Note:

- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- △ : internal component.
- ░ : Pattern from the side which enables seeing.
- Abbreviation
  - CND : Canadian model
  - CEV : Poland, Czech, Greece and Turkey model
  - CH : Chinese model
  - 2AEP : Earphone (MDR-023) model
  - EE : East European model
  - FR : French model
  - C&SA : Central and South America model
  - 9E : No indication of country of origin
  - E : Indication of country of origin
  - AEP : Headphone (MDR-E805LP) model

2. SCHEMATIC DIAGRAM • Refer to page 2 for Note on Schematic Diagram.



3. ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example:
  uA.. : μA.. uPA.. : μPA..
  uPB.. : μPB.. uPC.. : μPC.. uPD.. : μPD..
- CAPACITORS
  uF : μF
- COILS
  uH : μH

When indicating parts by reference number, please include the board.

- Abbreviation
  CND : Canadian model
  CEV : Poland, Czech, Greece and Turkey model
  CH : Chinese model
  2AEP : Earphone (MDR-023) model
  EE : East European model
  FR : French model
  C&SA : Central and South America model
  9E : No indication of country of origin
  E : Indication of country of origin
  AEP : Headphone (MDR-E805LP) model

Ref. No.	Part No.	Description			Remark
	A-3021-177-A	MAIN BOARD, COMPLETE (FX271:US,CND)			
	A-3021-178-A	MAIN BOARD, COMPLETE (AEP,CEV,CH)			
	A-3021-179-A	MAIN BOARD, COMPLETE (2AEP)			
	A-3021-180-A	MAIN BOARD, COMPLETE (EE)			
	A-3021-181-A	MAIN BOARD, COMPLETE (E,9E)			
	A-3021-183-A	MAIN BOARD, COMPLETE (FR)			
	A-3021-184-A	MAIN BOARD, COMPLETE (C&SA)			
	A-3021-215-A	MAIN BOARD, COMPLETE (FX275)			
		*********************			
	3-007-010-01	TERMINAL (–), BATTERY			
	3-030-055-01	TERMINAL (+), BATTERY			
		< CAPACITOR >			
C2	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C4	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C5	1-162-997-11	CERAMIC CHIP	10PF	0.5PF	50V
					(EXCEPT EE)
C6	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C7	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C8	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C9	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C10	1-162-905-11	CERAMIC CHIP	1PF	0.25PF	50V
					(EE)
C10	1-164-118-11	CERAMIC CHIP	15PF	5%	50V
					(EXCEPT EE)
C12	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C13	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C14	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C16	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C17	1-115-156-11	CERAMIC CHIP	1uF		10V
C18	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C19	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C20	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C21	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C22	1-126-963-11	ELECT	4.7uF	20%	50V
C23	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C24	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C25	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
					(EXCEPT US,CND,C&SA)
C25	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
					(US,CND,C&SA)
C26	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
					(EXCEPT US,CND,C&SA)
C26	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
					(US,CND,C&SA)
C27	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C28	1-124-434-00	ELECT	220uF	20%	4V
C29	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
					(US,CND,C&SA)
C30	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
					(EXCEPT US,CND,C&SA)
C31	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C34	1-164-437-11	CERAMIC CHIP	18PF	5%	50V
C35	1-162-961-11	CERAMIC CHIP	330PF	10%	50V
C36	1-115-156-11	CERAMIC CHIP	1uF		10V
C40	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C41	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C42	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C101	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C103	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C104	1-126-153-11	ELECT	22uF	20%	6.3V
C105	1-115-156-11	CERAMIC CHIP	1uF		10V
C107	1-115-156-11	CERAMIC CHIP	1uF		10V
C108	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C109	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C203	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C204	1-126-153-11	ELECT	22uF	20%	6.3V
C205	1-115-156-11	CERAMIC CHIP	1uF		10V
C207	1-115-156-11	CERAMIC CHIP	1uF		10V
C208	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C209	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-126-246-11	ELECT CHIP	220uF	20%	4V
C302	1-117-579-11	DOUBLE LAYERS	0.1F		3.5V
C303	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C304	1-128-551-11	ELECT	22uF	20%	25V
C305	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C306	1-164-113-11	CERAMIC CHIP	20PF	5%	50V
C307	1-126-153-11	ELECT	22uF	20%	6.3V
C308	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C309	1-115-156-11	CERAMIC CHIP	1uF		10V
C310	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C311	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
					(US,CND)
C312	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C319	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C321	1-124-434-00	ELECT	220uF	20%	4V
C324	1-115-156-11	CERAMIC CHIP	1uF		10V

Ref. No.	Part No.	Description			Remark
C325	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C326	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C327	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C332	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C333	1-126-162-11	ELECT	3.3uF	20%	50V
C334	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C335	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C336	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C337	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C338	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C601	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C602	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C603	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C604	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C605	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C606	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C608	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C701	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C702	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C703	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C704	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
					(EXCEPT EE)
C705	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C706	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C707	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C708	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C709	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C710	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C711	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C712	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C714	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C715	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< FILTER >			
CF1	1-760-345-21	FILTER, CERAMIC			
CF2	1-781-137-11	FILTER ASSY, CERAMIC			
		< CONNECTOR >			
CN301	1-750-346-21	CONNECTOR, FFC/EPC (ZIF) 6P			
		< BPF >			
CP1	1-236-711-21	FILTER, BAND PASS (EXCEPT EE)			
CP1	1-239-813-21	FILTER, BAND PASS (EE)			
		< TRIMMER >			
CT1	1-141-422-11	CAP, ADJ	10PF		
		< DIODE >			
D1	8-719-049-75	DIODE KV1520TL00			
D2	8-719-053-30	DIODE MA2S357-(TX).SO			
D3	8-719-053-30	DIODE MA2S357-(TX).SO			
D301	8-719-049-09	DIODE 1SS367-T3SONY			
D302	8-719-801-78	DIODE 1SS184			
D303	8-719-801-78	DIODE 1SS184			
D701	8-719-400-20	DIODE MA152WA			
		< IC >			
IC1	8-759-493-20	IC TA2111F-(EL)			
IC301	8-759-574-69	IC LB8115W-TLM			
IC701	8-759-574-71	IC uPD17072GB-559-1A7			
IC702	8-759-469-63	IC S-81215SGUP-DQK-T1			
		< JACK >			
J301	1-565-287-11	JACK (🎧)			
J302	1-750-061-11	JACK, DC (POLARITY UNIFIED TYPE)			
					(DC IN 3V)
		< JUMPER RESISTOR >			
JR2	1-216-864-11	METAL CHIP	0	5%	1/16W
					(US,CND,C&SA)
JR4	1-216-864-11	METAL CHIP	0	5%	1/16W
					(EXCEPT US,CND,C&SA)
JR5	1-216-864-11	METAL CHIP	0	5%	1/16W
					(EXCEPT US,CND,C&SA)
JR14	1-216-793-11	RES,CHIP	4.7	5%	1/16W
					(US,CND)
JR14	1-216-864-11	METAL CHIP	0	5%	1/16W
					(EXCEPT US,CND)
JR301	1-216-296-00	SHORT	0		
JR701	1-216-864-11	METAL CHIP	0	5%	1/16W
					(EE,E,9E)
JR702	1-216-864-11	METAL CHIP	0	5%	1/16W
					(AEP,2AEP,FR,EE,CEV,CH)
JR704	1-216-864-11	METAL CHIP	0	5%	1/16W
JR706	1-216-864-11	METAL CHIP	0	5%	1/16W
JR707	1-216-864-11	METAL CHIP	0	5%	1/16W
		< COIL >			
L2	1-416-528-11	COIL, AIR-CORE (EXCEPT EE)			
L2	1-416-967-11	COIL, AIR-CORE (EE)			
L3	1-416-449-21	COIL, AIR-CORE (EXCEPT EE)			
L3	1-416-968-12	COIL, AIR-CORE (EE)			
L4	1-416-423-11	COIL (WITH CORE) (AM OSC)			
L101	1-414-760-21	INDUCTOR, FERRITE BEAD			
L201	1-414-760-21	INDUCTOR, FERRITE BEAD			
L301	1-414-235-22	INDUCTOR, FERRITE BEAD			
L302	1-414-760-21	INDUCTOR, FERRITE BEAD			
L304	1-414-760-21	INDUCTOR, FERRITE BEAD			
L701	1-412-995-21	INDUCTOR	22uH		
		< TRANSISTOR >			
Q2	8-729-102-27	TRANSISTOR 2SC2223-T1F12			
Q101	8-729-424-67	TRANSISTOR UN2216			
Q201	8-729-424-67	TRANSISTOR UN2216			
Q301	8-729-216-22	TRANSISTOR 2SA1162-G			
Q302	8-729-900-52	TRANSISTOR DTC114YK			

Ref. No.	Part No.	Description			Remark
Q303	8-729-402-13	TRANSISTOR	XN1501		
Q304	8-729-141-48	TRANSISTOR	2SB624-BV345		
Q305	8-729-402-13	TRANSISTOR	XN1501		
Q306	8-729-403-17	TRANSISTOR	XN1215		
Q307	8-729-422-27	TRANSISTOR	2SD601A-Q		
Q308	8-729-900-52	TRANSISTOR	DTC114YK		
Q701	8-729-422-27	TRANSISTOR	2SD601A-Q		
Q702	8-729-422-27	TRANSISTOR	2SD601A-Q		
Q703	8-729-102-27	TRANSISTOR	2SC2223-T1F12		
Q704	8-729-011-47	TRANSISTOR	XN4311		
		< RESISTOR >			
R1	1-216-851-11	METAL CHIP	330K	5%	1/16W
R2	1-216-839-11	METAL CHIP	33K	5%	1/16W
R3	1-216-851-11	METAL CHIP	330K	5%	1/16W
R4	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5	1-216-847-11	METAL CHIP	150K	5%	1/16W
R6	1-216-851-11	METAL CHIP	330K	5%	1/16W
R7	1-216-847-11	METAL CHIP	150K	5%	1/16W
R8	1-216-851-11	METAL CHIP	330K	5%	1/16W
R9	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R10	1-216-809-11	METAL CHIP	100	5%	1/16W
R11	1-216-833-11	RES,CHIP	10K	5%	1/16W
R12	1-216-797-11	METAL CHIP	10	5%	1/16W
R13	1-216-821-11	METAL CHIP	1K	5%	1/16W
R14	1-216-815-11	METAL CHIP	330	5%	1/16W
R15	1-216-841-11	METAL CHIP	47K	5%	1/16W
					(EXCEPT FR)
R15	1-216-842-11	METAL CHIP	56K	5%	1/16W
					(FR)
R16	1-216-841-11	METAL CHIP	47K	5%	1/16W
					(EXCEPT FR)
R16	1-216-842-11	METAL CHIP	56K	5%	1/16W
					(FR)
R17	1-216-797-11	METAL CHIP	10	5%	1/16W
R18	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
					(US,CND)
R18	1-216-835-11	METAL CHIP	15K	5%	1/16W
					(EXCEPT US,CND)
R20	1-216-815-11	METAL CHIP	330	5%	1/16W
R21	1-216-864-11	METAL CHIP	0	5%	1/16W
R103	1-216-835-11	METAL CHIP	15K	5%	1/16W
R104	1-216-835-11	METAL CHIP	15K	5%	1/16W
R105	1-216-855-11	METAL CHIP	680K	5%	1/16W
R106	1-216-818-11	METAL CHIP	560	5%	1/16W
R107	1-216-795-11	RES,CHIP	6.8	5%	1/16W
					(FX271:US,CND,2AEP)
R107	1-216-799-11	METAL CHIP	15	5%	1/16W
					(FX271:EXCEPT US,CND,2AEP,FR/FX275)
R107	1-216-807-11	METAL CHIP	68	5%	1/16W
					(FR)
R108	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R110	1-216-812-11	METAL CHIP	180	5%	1/16W
					(EXCEPT US,CND,2AEP,FR)
R110	1-216-815-11	METAL CHIP	330	5%	1/16W
					(US,CND,2AEP)
R110	1-216-816-11	METAL CHIP	390	5%	1/16W
					(FR)
R111	1-216-821-11	METAL CHIP	1K	5%	1/16W
R112	1-216-821-11	METAL CHIP	1K	5%	1/16W
R203	1-216-835-11	METAL CHIP	15K	5%	1/16W
R204	1-216-835-11	METAL CHIP	15K	5%	1/16W
R205	1-216-855-11	METAL CHIP	680K	5%	1/16W
R206	1-216-818-11	METAL CHIP	560	5%	1/16W
R207	1-216-795-11	RES,CHIP	6.8	5%	1/16W
					(FX271:US,CND,2AEP)
R207	1-216-799-11	METAL CHIP	15	5%	1/16W
					(FX271:EXCEPT US,CND,2AEP,FR/FX275)
R207	1-216-807-11	METAL CHIP	68	5%	1/16W
					(FR)
R208	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R210	1-216-812-11	METAL CHIP	180	5%	1/16W
					(EXCEPT US,CND,2AEP,FR)
R210	1-216-815-11	METAL CHIP	330	5%	1/16W
					(US,CND,2AEP)
R210	1-216-816-11	METAL CHIP	390	5%	1/16W
					(FR)
R301	1-216-821-11	METAL CHIP	1K	5%	1/16W
R302	1-216-837-11	METAL CHIP	22K	5%	1/16W
R303	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R304	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R305	1-216-833-11	RES,CHIP	10K	5%	1/16W
R306	1-216-847-11	METAL CHIP	150K	5%	1/16W
R307	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R308	1-216-819-11	METAL CHIP	680	5%	1/16W
R309	1-216-845-11	METAL CHIP	100K	5%	1/16W
R310	1-216-864-11	METAL CHIP	0	5%	1/16W
R311	1-216-821-11	METAL CHIP	1K	5%	1/16W
R312	1-216-835-11	METAL CHIP	15K	5%	1/16W
R313	1-216-821-11	METAL CHIP	1K	5%	1/16W
R319	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R320	1-216-218-00	RES,CHIP	6.8K	5%	1/8W
R321	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R324	1-216-833-11	RES,CHIP	10K	5%	1/16W
R326	1-216-845-11	METAL CHIP	100K	5%	1/16W
R327	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R328	1-216-833-11	RES,CHIP	10K	5%	1/16W
					(EXCEPT EE)
R328	1-216-839-11	METAL CHIP	33K	5%	1/16W
					(EE)
R329	1-216-864-11	METAL CHIP	0	5%	1/16W
R408	1-216-845-11	METAL CHIP	100K	5%	1/16W
R601	1-216-821-11	METAL CHIP	1K	5%	1/16W
R605	1-216-835-11	METAL CHIP	15K	5%	1/16W
R606	1-216-845-11	METAL CHIP	100K	5%	1/16W
R608	1-216-833-11	RES,CHIP	10K	5%	1/16W
R609	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R610	1-216-821-11	METAL CHIP	1K	5%	1/16W
R611	1-216-864-11	METAL CHIP	0	5%	1/16W

MAIN

Ref. No.	Part No.	Description			Remark
R701	1-216-837-11	METAL CHIP	22K	5%	1/16W (EXCEPT EE)
R701	1-216-842-11	METAL CHIP	56K	5%	1/16W (EE)
R702	1-216-839-11	METAL CHIP	33K	5%	1/16W (EXCEPT EE)
R702	1-216-845-11	METAL CHIP	100K	5%	1/16W (EE)
R703	1-216-812-11	METAL CHIP	180	5%	1/16W (EXCEPT EE)
R703	1-216-815-11	METAL CHIP	330	5%	1/16W (EE)
R704	1-216-803-11	METAL CHIP	33	5%	1/16W
R705	1-216-833-11	RES,CHIP	10K	5%	1/16W (EXCEPT EE)
R706	1-216-833-11	RES,CHIP	10K	5%	1/16W
R707	1-216-833-11	RES,CHIP	10K	5%	1/16W
R708	1-216-833-11	RES,CHIP	10K	5%	1/16W
R709	1-216-833-11	RES,CHIP	10K	5%	1/16W
R710	1-216-833-11	RES,CHIP	10K	5%	1/16W
R711	1-216-833-11	RES,CHIP	10K	5%	1/16W
R712	1-216-833-11	RES,CHIP	10K	5%	1/16W
R715	1-216-841-11	METAL CHIP	47K	5%	1/16W
R719	1-216-833-11	RES,CHIP	10K	5%	1/16W
R720	1-218-879-11	METAL CHIP	22K	0.50%	1/16W
R721	1-218-915-11	METAL CHIP	680K	0.50%	1/16W
R723	1-216-845-11	METAL CHIP	100K	5%	1/16W
R725	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< VARIABLE RESISTOR >			
RV301	1-225-748-21	RES, VAR, CARBON 10K/10K (VOLUME)			
RV601	1-241-784-11	RES, ADJ, CARBON 5K			
		< SWITCH >			
S301	1-762-742-31	SWITCH, DETECTION (SMALL TYPE) (TAPE POWER)			
S303	1-692-298-11	SWITCH, SLIDE (NORM•CrO_2/METAL, DX•LOCAL) (US,CND,C&SA)			
S303	1-692-298-11	SWITCH, SLIDE (NORM•CrO_2/METAL, ST•FM MONO) (EXCEPT US,CND,C&SA)			
S305	1-692-298-11	SWITCH, SLIDE (AVLS)			
S716	1-572-922-11	SWITCH, SLIDE (HOLD ▷)			
		< TRANSFORMER >			
T1	1-406-694-11	COIL, AM IFT			
T301	1-426-917-11	TRANSFORMER, DC-DC CONVERTER			
		< THERMISTOR (POSITIVE) >			
TH601	1-810-794-11	THERMISTOR, POSITIVE			
		< VIBRATOR >			
X2	1-781-137-11	FILTER ASSY, CERAMIC			
X701	1-577-262-11	VIBRATOR, CRYSTAL (75kHz)			

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